

### **Remarks**

At the outset, Applicant's attorney wishes to thank the Examiner for his courtesy and helpful suggestions in the telephone interview regarding this application. The summary of the telephonic interview is believed to be accurately set forth in the Interview Summary dated July 15, 2004.

Claims 37-39 stand rejected under 35 U.S.C. 112 as failing to comply with the written description requirement. Basically it is the Examiner's position that the claims do not have basis in the original disclosure and accordingly are deemed to introduce new matter.

Turning first to Claim 37, the Examiner's attention is directed to page 7 of the application as originally filed and specifically lines 1-5 and 27-29 thereof. Those lines teach that the aluminas modified per the invention can be incorporated in various insoluble polymers or laquer/paints, PVC being specifically named as a water insoluble plastic. Accordingly, it is respectfully submitted that Claim 37 is clearly supported by the disclosure as originally filed. Likewise, it is respectfully submitted that Claim 39 is also supported. With respect to Claim 39, the cited lines on page 7 of the original disclosure provide ample support. See also Claims 15 and 16 of the original disclosure for further support for Claims 37 and 39. With respect to Claim 38, the Examiner's attention is directed to Claim 9 of the original disclosure which provides direct support for Claim 38. By this amendment, essentially the wording of original Claim 9 has been incorporated into the specification on

page 7, line 30.

Turning to the art rejections, Claims 18-23, 27-35 and 40 stand rejected as unpatentable over Hurlburt et al., U.S. Patent 6,224,846, further in view of Singleton et al., U.S. Patent 6,262,132. Enclosed herewith is a certified original of the English translation of the German priority application. By submission of this document, Applicants' claim to priority has been perfected thereby obviating the rejection over Hurlburt alone or in combination with any other reference.

Additionally, enclosed is a Declaration of the undersigned to the effect that the inventions of the Hurlburt patent and the present application were commonly owned at the time those respective inventions were made. As noted by the Examiner, Hurlburt is a named inventor on both the captioned application and the cited Hurlburt patent.

Claims 18-24, 27-37 and 39-40 stand rejected as obvious over the Asashi Glass Company reference (Asashi). The rejection is respectfully traversed. Claim 18 has been amended to recite that the organic solvent is a non-aqueous organic solvent. That the inclusion of the term "non-aqueous" as supported by the specification is clear from the title as well as the wording on page 5, line 20 - page 6, line 7. There is no suggestion in any of those lines of a mixture of water and any organic compound as being the solvent in which the alumina is dispersed. As can be seen on page 7, lines 20 *et seq*, it is stated that, in contrast to prior art suspensions of alumina hydrates in aqueous systems, in the present organic dispersions the viscosity increases only slightly and then remains constant

after one day and furthermore that no sedimentation occurs even after several weeks. This makes the dispersion ideal for transparent coatings. Support for the amendment to Claim 18 can also be found in the examples wherein in all cases the modified aluminas are dispersed in non-aqueous, organic solvents and in this regard the Examiner's attention is directed to Examples 1-3 and Table 1. There is not a suggestion in any of the examples or in Table 1 of dispersing the aluminas in anything but non-aqueous or water-free organic solvents. Reading the application as a whole, Applicant submits that the skilled artisan would conclude that the organic solvent was indeed a non-aqueous organic solvent since there is absolutely no suggestion to the contrary. As the Examiner well knows, issues of this type must be decided on the particular facts in terms of what is reasonably communicated to those skilled in the art. In re *Wilder* 736 F.2d 1516, 1520; 222 USPQ 369, 372 (Fed. Cir. 1984) Applicant respectfully submits that the application reasonably, indeed only, communicates to those skilled in the art that the organic solvent is in fact a non-aqueous or water-free organic solvent. Accordingly, it is respectfully submitted that the inclusion of the term "non-aqueous" does not introduce new matter.

In view of the amendment to Claim 18, it is respectfully submitted that all claims are patentable over Asashi.

Claims 18 and 38 stand rejected as unpatentable over Nissan Chem Ind Ltd, JP 06-32604 (Nissan). Claim 18 and hence all claims dependent thereon specifically recites that the metal oxide/aquoxide has a crystallite size of 4 to 100 nm, determined by x-ray

refraction on the 021 reflex. As recognized by the Examiner, the Nissan reference does not teach the use of a metal oxide/aquoxide with that crystallite size. Nor can that crystallite size be inferred from the particle size disclosed in Nissan. As the Examiner well knows, there is no relationship between crystallite size and particle size. Furthermore, Applicant's claim recites that the particle size is from 5 to 500 nm as determined by photon correlation spectroscopy in dispersion. In the Nissan reference, the particle size is measured on the dry powder. See in this regard see (0011) third line. Lastly, the particle size measurements in the Nissan patent relates strictly to a zirconia impalpable powder and there is no indication that that particle size would be equally applicable to alumina or for that matter any other material. It is also to be noted that in the Nissan reference ball milling or some form of mechanical attrition is necessary to disperse the treated zirconia powder in the organic solvent. In this regard the Examiner's attention is directed to the example and the line stating: "The obtained slurry carried out \*\*\*\* dryness for spray dryers, and performed the pulverization." This is clear evidence that Applicant's method produces a modified alumina which is completely different from that produced via the process of the Nissan reference. In Applicant's case, there is no necessity for ball milling or other forms of mechanical attrition obviously due to the fact that Applicant starts with a material having a crystallite size neither taught nor suggested by the Nissan reference and a particle size neither taught or suggested by the Nissan reference. It is respectfully submitted that Claim 18 and hence claims dependent thereon are patentable over the Nissan reference.

With respect to product-by-process Claim 34, Applicant also submits that that claim is patentable over the applied art. Applicant is mindful of the fact that a product-by-process claim must in fact produce a new product to establish patentability. That clearly is the case here. With particular reference to the Nissan reference and as was pointed out above, Applicant's obtained powder does not require mechanical attrition in order to be dispersed in a purely organic solvent. As was also pointed out, this is obviously a function of the nature, at least in part, of the starting material used by Applicant. In any event, since Applicant's modified metal oxide (alumina) is dispersible in the non-aqueous organic solvent without the need for any mechanical attrition, it inherently describes a new product vastly different from what is disclosed in Nissan. Accordingly it is respectfully submitted that Claim 34 and claims dependent thereon are patentable over the Nissan reference.

Lastly, enclosed herewith is a Terminal Disclaimer obviating the double patenting rejection of Claims 18-23, 27-33 and 40 over Claims 1-6 and 8 of Hurlburt as evidenced by Singleton et al.

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In view of the foregoing amendments, remarks and the enclosures, it is respectfully submitted that all remaining claims are in condition for allowance which is hereby earnestly solicited and respectfully requested.

Respectfully submitted,



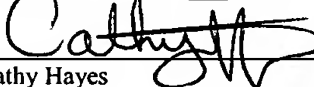
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CERTIFICATE OF MAILING

I certify that this document and fee is being deposited with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on August 13, 2004.

By:   
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